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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,730	02/19/2002	Gregory M. Nichols	N.C. 83,180	3168

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EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/077,730	NICHOLS, GREGORY M.	
	Examiner	Art Unit	
	Erin M. File	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,19,20 and 23-25* is/are rejected.

7)☒ Claim(s) *12-18,21 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/19/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract exceeds 150 words. Appropriate correction is required.

2. The abstract of the disclosure is objected to because of the use of acronyms as follows. In line 1, the acronym *RF* should be replaced with *radio frequency (RF).*

Further, in line 3, the acronym *ADC* should be replaced by *analog to digital converter (ADC).* Line 4, the acronym *FIFO* should be replaced by *first in first out (FIFO).*

Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1-25 are objected to because of the following informalities:

The use of undefined acronyms in independent claims 1, 10, 19, and 23, inherited by all dependent claims, and further the use of undefined acronyms in dependent claims 2, 4, 11, 20, inherited by dependent claims.

Claim 1, line 1, the acronym *RF* should be replaced with *radio frequency (RF)*, line 6, the acronym *ADC* should be replaced by *analog to digital converter (ADC)*, line 13, the acronym *FIFO* should be replaced by *first in first out (FIFO).*

Claim 10, line 1, the acronym *RF* should be replaced with *radio frequency (RF)*, line 7, the acronym *ADC* should be replaced by *analog to digital converter (ADC).*

Claim 19, line 1, the acronym *RF* should be replaced with *radio frequency (RF)*, line 6, the acronym *ADC* should be replaced by *analog to digital converter (ADC)*, line 8, the acronym *FIFO* should be replaced by *first in first out (FIFO).*

Claim 23, line 1, the acronym *RF* should be replaced with *radio frequency (RF)*, line 6, the acronym *ADC* should be replaced by *analog to digital converter (ADC).*

Claims 2, 4, 11, 20, line 1, the acronym *IF* should be replaced with *intermediate frequency (IF).*

Appropriate correction is required.

4. Claims 12-18, 21-22 are objected to as dependent upon rejected claims, but would be allowable if rewritten in independent form.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 10, 11, 19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nease and in further view of Patel et al.

Claims 10, 19, 23, Nease discloses a radio frequency (RF) input (fig. 3, input to 102) input to a variable attenuator (104) which is input to a low noise amplifier (106) which is filtered by a bandpass filter (114). This output is converted by an analog to digital

converter to create a digitized output (output 120). Nease further discloses a gain control detector (122) which determines attenuation value and control and is communicated to the variable attenuator (104). The receiver repeats this step over a plurality of data samples as they are sampled and processed from the receiver. An IF output buffer amplifier (120) buffers the gain controlled signal and sends the signal on for analog to digital conversion. Although Nease fails to disclose the signal first digitized and then used for gain control, it would be obvious to one skilled in the art that the digitizing of the signal before using said signal for gain control is not a significant design choice from digitizing the signal after gain control signals are derived. The applicant fails to disclose an advantage to digitizing the gain controlled signal prior to providing a gain control signal, therefore it would be obvious to one skilled in the art at the time of invention to use the digitized version of the signal for gain control in the automatic gain control circuit as disclosed by Nease. Further Nease fails to disclose a threshold establishing a threshold for detecting the presence of a pulse within the plurality of ADC data samples. However Patel discloses an automatic gain controlled circuit which uses an envelop detector (fig. 1, 21) in combination with a peak amplitude detector (22) which controls the gain control circuitry (23). Because Patel uses the analog, as opposed to the digital, version of the signal, the envelop detector and peak detector can be used to detect a pulse of a determined peak value to control the gain of the gain automatic gain control. The use of such peak amplitude based control signals can reduce unwanted amplifier gain. Because of this advantage in gain control it would be

obvious to one skilled in the art at the time of invention to incorporate Patel's gain control approach into Nease's automatic gain control apparatus.

Claim 11, 20, inherit the limitations of Claims 10 and 19 respectively, further Nease discloses an intermediate frequency bandpass filter (114), which directly implies the presence of an intermediate frequency signal in the radio frequency input signal.

Claim 24, inherits the limitations of Claim 23, Nease further discloses an automatic gain control amplifier (116).

Claim 25, inherits the limitations of Claim 23, neither Nease nor Patel et al. disclose a buffer memory implemented in random access memory. The combined references as described in Claim 23 above disclose the claimed invention except for the implementation of a buffer memory implemented in random access memory. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement a buffer in random access memory since it was known in the art that random access memory is an extremely common way of implementing memory.

Claim Rejections - 35 USC § 112

7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, the claim states the recitation, "a FIFO buffer having an input coupled to the second digital logic circuit output" however, there is no antecedent basis for a second digital logic circuit in the claim.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin M. File

EMF

5.23.2005

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